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MAR 2 1 2016

Ref: 8EPR-N

Scott Fitzwilliams, Forest Supervisor
White River National Forest
c/o Matt Ehrman, Project Leader
900 Grand Avenue
Glenwood Springs, Colorado 81601

Re: Draft Environmental Impact Statement for the Arapahoe Basin Ski Area Projects; CEQ # 20160026

Dear Supervisor Fitzwilliams:

The U.S. Environmental Protection Agency Region 8 has reviewed the U.S. Department of Agriculture Forest Service's (USFS's) Draft Environmental Impact Statement (EIS) for the Arapahoe Basin (A-Basin) Ski Area Projects. The USFS White River National Forest has prepared the Draft EIS in response to A-Basin's request to implement projects from its 2012 Master Development Plan to improve guest experiences and skier safety. Our review was conducted in accordance with the EPA's responsibilities under section 102 of the National Environmental Policy Act (NEPA), and Section 309 of the Clean Air Act (CAA).

**Project Background**

The Proposed Action would expand A-Basin's operational boundary by approximately 492 acres and would add approximately 338 acres of ski terrain in the Beavers area. The proposal includes the following components: 1) incorporating the Beavers area into A-Basin's operational boundary; 2) development of the Beaver's terrain, including ski trails and a chairlift; 3) replacing the Molly Hogan and Pallavicini chairlifts; 4) grading around the ridge above the top terminal of the Pallavicini chairlift; 5) construction of the Zuma Access surface lift; 6) removal of the Norway chairlift; and 7) the addition of a canopy tour and a challenge course. The Draft EIS analyzes the No Action Alternative and the Proposed Action identified as the Preferred Alternative.

Subsequent to the scoping process, A-Basin decided to eliminate the zip line project element and the proposal to expand the water storage capacity for additional snowmaking water. The EPA had expressed concerns in our scoping comments regarding potential impacts to the North Fork and mainstem of the Snake River, as well as the water supply at Dillon Reservoir, which could have resulted from expanding snowmaking water storage and changing the water withdrawal regime. The Draft EIS states that additional storage capacity for snowmaking water could be considered in the future, separate from this NEPA process (p. 2-21). We recommend that the Final EIS describe the future circumstances that would trigger A-Basin to further consider the expansion of water storage and also the level of NEPA analysis that will be needed to support that action. The Draft EIS does not discuss whether there is a need for supplementary snowmaking as a result of expanding A-Basin's operational boundary and including the

additional acreage of skiable terrain in the Beavers area. We recommend that the Final EIS provide clarification on whether additional snowmaking will be necessary, and if so, fully evaluate and disclose potential impacts within this NEPA process.

Many of the EPA's scoping concerns have been eliminated due to the decision to remove the new snowmaking reservoir from the project proposal. Remaining concerns about the Proposed Action, particularly associated with water resources, are outlined below along with recommendations for consideration.

## Comments and Recommendations

### Aquatic Resources

The EPA considers protection of aquatic resources to be among the most important issues to be addressed in the NEPA analysis for these types of project activities. The Draft EIS states that there will be permanent wetland impacts associated with the Proposed Action alternative. However, no irreversible or irretrievable impacts to stream and riparian resources have been identified.

Wetlands: The document adequately describes the wetland communities and tributary waters that are affected by the ski area expansion/upgrades. Although maps were included in the Draft EIS, the scale does not provide sufficient detail to understand the impacts to various types of wetland plant communities from proposed ski area features. Larger scale maps are necessary to more fully disclose impacts from specific ski area features and to assist with future avoidance and minimization efforts with final design. We recommend the Final EIS include 1 inch equals 100 feet scale mapping for wetland plant communities impacted by ski area features, including direct, indirect/secondary, temporary, and vegetation removal types of impacts. We request a site visit so that we can more fully understand the project's potential impacts to wetlands.

Regarding direct impacts, the proposed project will adversely impact less than 1 acre of montane wetlands and there will be 1.53 acres of secondary wetland impacts due to overstory forest removal, willow cutting, and snow compaction. No mitigation is offered for these secondary impacts to wetlands. If these impacts are unavoidable, we recommend that the USFS consider potentially mitigating out-of-kind by considering less damaging alternatives for snow management. Specifically, we recommend the USFS review current snow disposal methods from the existing unpaved parking lots and evaluate the potential impacts from these practices. Our experience with snow disposal is that sediment, trash and other pollutants are often discharged into wetlands and tributaries with long-term adverse impacts to the aquatic ecosystems. We request that the USFS develop improved snow management activities to protect and restore water quality on its lands. There appear to be opportunities for improving storm water management including the potential paving of existing parking lots with designed stormwater management systems to adequately control sediment and other pollutants.

Water Quality: We have outlined several concerns regarding potential impacts to water resources. We recommend that a monitoring plan be designed and implemented to measure the effectiveness of proposed mitigation. Additional details are provided below.

*Emergency Egress Route*
A component of the proposed projects includes a 25-foot wide emergency egress route in the Beavers area to accommodate evacuation of injured skiers by snowcats. The construction would involve

approximately 4 acres of tree removal and additional "spot grading." In mountain environments, cut and fills associated with grading for trail and road construction have the potential to impact streams, wetlands, and their supporting hydrologic systems. Although the Draft EIS states that the location was chosen to avoid sensitive resources including streams, wetlands, lynx habitat, and boreal toad habitat, the document discloses that this route crosses springs and wetlands. Additionally, according to Figure 2, the route appears to be in close proximity to the North Fork of the Snake River. We note in the "Stream Health, Impacts to WIZ" (Water Influence Zone) section, the Draft EIS states that the Proposed Action would involve tree removal and terrain grading, including within the WIZ (p. 3-109). We recommend to avoid tree removal and grading within the WIZ to the greatest extent possible. However, if impacts cannot be avoided, it is important to include monitoring as part of the mitigation and project design details for this type of project in the Final EIS. Further detailed recommendations are offered below.

*Stream Health*

Hydrographs were developed to help further characterize and study affected watersheds. The WRENSS Model was used for this EIS to generate a water balance using seasonal precipitation and vegetation type and density, and then computes the amount of water potentially available for runoff. The WRENSS Model is utilized in combination with a snowmaking hydrology computation process to produce estimates of water yield and peak flow to simulate expected changes in streamflow as a result of project implementation (e.g., ski trail development, silvicultural activities). The Draft EIS concludes from the WRENSS Model analysis that changes in peak flows relative to existing conditions will be negligible, indicating that the most significant change would be on the order of 10% in Watershed #3, representing a 0.3 cfs increase. As discussed in the Draft EIS, the North Fork of the Snake River just downstream from the study watersheds has been rated on stream health as "robust" for the percent fine sediments, residual pool depth, and large woody debris metrics, but "at-risk" for unstable banks as defined by the USFS's Watershed Conservation Practices Handbook. We are concerned that increased peak flows have the potential to exacerbate the unstable banks condition.

Also, Table 3I-14 refers to a USDA Forest 2011 assessment of watershed condition for the North Fork of the Snake River Watershed. Notably, the condition for aquatic biota is listed as "poor." Unfortunately, we were unable to determine what influenced the poor score as this document is not referenced in Section 5 of the Draft EIS. We recommend that this information be clarified in the Final EIS.

In summary, the Proposed Action would involve tree removal and terrain grading within the study watersheds, including in the WIZ, which can negatively affect stream health. Additionally, increased peak flows could further degrade unstable banks that are currently at-risk. As a result, project design criteria (PDC) and best management practices (BMPs) have been incorporated into the Proposed Action in order to minimize potential impacts from construction and implementation of any approved projects (see Table 2-2). However, the Draft EIS does not include information on a monitoring protocol to assess how effective the PDC and BMP measures will be in preventing downstream degradation of stream health.

*Recommended Design Features, BMPs, and Monitoring*

While we support the efforts of the USFS to avoid and minimize impacts through PDC and BMPs, we also recommend and support the development of an adaptive management and monitoring framework to define monitoring questions and protocols, require annual monitoring review and evaluation of project effects, and adjust management towards desired conditions throughout and subsequent to the project implementation period. At a minimum, we recommend expanding protective measures to include monitoring requirements of critical metrics including percent fine sediments, bank stability, and MMI

scores (Colorado Multi Metric Index of instream biological integrity calculated from a benthic invertebrate data sample). We recommend that monitoring continues annually for at least several years after the projects are implemented to ensure that upstream activities are not exacerbating an already "poor" stream condition and "at-risk" bank stability.

**Other Considerations**

Greenhouse Gas Emissions and Climate Change: Providing a qualitative evaluation of potential influences of climate change on the proposed project would be a valuable addition to the Final EIS. As we mentioned in our January 2014 scoping comments, reports predict on average that Colorado's mountains will experience warmer winters, shorter snow seasons and earlier runoff. These changes to local climate may modify project design and/or operational components of the project (e.g., increased snowmaking and subsequent impacts to water quality/quantity and aquatic resources). We recommend that USFS include in the "Affected Environment" section of the Final EIS a summary discussion of climate change and ongoing and reasonably foreseeable climate change impacts relevant to the project, based on U.S. Global Change Research Program assessments.[1]

Special-Status and Threatened and Endangered Species: The analysis considered federal, state and local species of concern. It was determined that the project area may contain special status species, including Endangered Species Act listed threatened species, endangered species, and/or their designated critical habitat, as well as candidate species. These include four endangered fish (humpback chub, bonytail chub, Colorado pikeminnow, razorback sucker) and the Canada Lynx. We understand that the Section 7 consultation, including a prepared Biological Assessment/Biological Evaluation/Migratory Bird Report, is detailed in the project file. To best inform the decision-maker and the public, we recommend the NEPA documentation include any substantial USFWS recommendations that may occur during the NEPA process to reduce potential impacts to these species including project design criteria, mitigation, conservation measures and monitoring measures. The results of the USFWS discussions and subsequent recommendations will be a valuable addition to the Final EIS.

References: In addition to the USDA Forest 2011 assessment mentioned above, we found that the section on references (Chapter 5) was incomplete. We can provide additional examples if this would be helpful. In general we recommend that the USFS update Chapter 5 in the Final EIS to list all of the studies/surveys that are referenced in the text. This will ensure public accessibility to the research that influenced the EIS analysis.

**EPA Rating**

Consistent with Section 309 of the CAA, it is the EPA's responsibility to provide an independent review and evaluation of the potential environmental impacts of this project. Based on the procedures the EPA uses to evaluate the adequacy of the information and the potential environmental impacts of the Preferred Alternative, the EPA is rating the Draft EIS as Environmental Concerns – Insufficient Information (EC-2). The "EC" rating indicates that the EPA review has identified environmental impacts that need to be avoided in order to fully protect the environment. The "2" rating indicates that the EPA has identified additional information, data, analyses, or discussion that we recommend for inclusion in the Final EIS. A description of the EPA's rating system can be found at: https://www.epa.gov/nepa/environmental-impact-statement-rating-system-criteria.

[1] http://www.globalchange.gov/

We appreciate the opportunity to participate in the review of this project, and are committed to working with you as you prepare the Final EIS. If we may provide further explanation of our comments during this stage of your planning process, please contact me at 303-312-6704, or your staff may contact Melanie Wasco, Lead NEPA Reviewer, at 303-312-6540.

Sincerely,

Philip S. Strobel
Director, NEPA Compliance and Review Program
Office of Ecosystems Protection and Remediation